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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,561	09/22/2005	Seung-Woo Lee	AB-1751 US	2813

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EXAMINER
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ALMEIDA, CORY A

ART UNIT	PAPER NUMBER
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2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,561	<b>Applicant(s)</b> LEE, SEUNG-WOO	
	<b>Examiner</b> CORY A. ALMEIDA	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 1-20 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/20/2009 has been entered.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 11 state that a block pattern is formed of two dot blocks and a dot block is formed by a gray difference between a pair of adjacent odd and even pixels. Which leads one to believe a block pattern is formed of 4 pixels. However the claims go further to state that a dot block includes at least two successive pairs of adjacent two pixels. So is a dot block comprised of 2 or 4 pixels? Is a block pattern 4 or 8 pixels? At this moment it is unclear.

4. Examiner will assume that the amended claim language is correct at this juncture and that a dot block is an adjacent 2 pixels and that a block pattern includes at least two successive pairs of adjacent two pixels.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1-7, 11-14, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukutoku, US-20010004253.

7. In regards to claim 1 and associated method claim 11, Fukutoku discloses a liquid crystal panel (Fig. 8, 13) including a plurality of the data lines extending in a column direction (Fig. 8), a plurality of the gate lines in a row direction (Fig. 8), and a plurality of first to third color pixels displaying image based on signals received from the data lines and the gate lines and arranged in a matrix (Par. 0005), a data driver applying data voltages required for image display to the data lines (Fig. 8, 14), and a signal controller receives a plurality of first to third color image data for the first to third color pixels, supplying the received image data to the data driver, and generates control signals required for driving the liquid crystal panel (Fig. 8, 11), wherein the signal controller changes an inversion type when the number of a block pattern is larger than a predetermined value (Par. 0014-0015), the first and second dot blocks are formed by a gray difference between a pair of adjacent odd and even pixels in each block (Par. 0015

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dot blocks are two adjacent pixels in the horizontal direction with a gray difference between the two), each block pattern includes at least one color pixels among the first to third color pixels (Par. 0014-0015), and a magnitude of gray difference between two pixels in each pair is equal to or larger than a critical value (Par. 0014-0015 describes a difference between two adjacent pixels aka one being higher than the other aka a critical value).

Fukutoku does not describe expressly the block pattern is formed by first and second dot blocks located in adjacent row and the same columns, or each block pattern includes at least two of successive pairs of adjacent two pixels.

However, at the time of the invention, it would have been obvious to one of ordinary skill in the art that the combinations of Fukutoku could be modified so that the two horizontal pixels of Fukutoku could be lumped together with the two horizontal pixels below them, thus making them a block pattern.

The motivation for doing so would have been to reduce processing.

Therefore, it would have been obvious that Fukutoku discloses the invention of claims 1 and 11.

8. In regards to claim 2 and associated method claim 12, Fukutoku discloses the critical value has the first to third values for the first to third colors, and the first to third values are at least different (Par. 0064 the values are allowed to be anything).

9. In regards to claim 3 and associated method claim 13, Fukutoku discloses the first to third colors are red, green and blue colors, respectively, and the second value is

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smaller than the first and third values (Par. 0061 green has the largest transmittance value and so its critical value would have to be lowest to compensate).

10. In regards to claim 4, Fukutoku discloses the block patterns include first and second dot blocks with the gray differences of opposite signs, and the predetermined pattern includes a first dot block in a first row and a second dot block located in the same column as the first dot block and in a second row adjacent to the first row (Fig. 3A).

11. In regards to claim 5, Fukutoku discloses the predetermined pattern includes a first dot block in a first row and a second dot block located in the same columns as the first dot block and in a second row adjacent to the first row, and the first and second blocks have the gray differences of an equal opposite sign (Fig. 1A and 3A).

12. In regards to claim 6, Fukutoku discloses the pixels in each row are grouped into a plurality of blocks, each block including even number of pixels (a group of 2 adjacent pixels), and the signal controller determines whether each block is one of the block patterns (Par. 0014-0015).

13. In regards to claim 7, Fukutoku discloses a block counter for counting ordinal of each block among the blocks in a row (Fig. 11, 44) and a line counter for counting ordinal of a row including the blocks (Fig. 11, 48).

14. In regards to claim 14, Fukutoku discloses the determination of a pattern determines whether a previous block in a previous row and in columns is the first or second dot block when a current block in a current row mid the columns is the first or second dot block (Par. 0090-100).

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15. In regards to claim 17, Fukutoku discloses the current block is determined to be a one-dot block when the current block is the first dot block and the previous block is the second dot block, and the change of an inversion type comprises comparison of the number of the one-dot blocks with the number of total blocks (Par. 0090-100).

16. In regards to claim 18, Fukutoku discloses the current block is determined to be a double-dot block when both the current block and the previous block are the first dot blocks or the second dot blocks, and the change of an inversion type comprises comparison of the number of the double-dot blocks with the number of total blocks (Par. 0090-100).

17. In regards to claim 19, Fukutoku discloses the change of an inversion type further comprises comparison of the number of the double-dot blocks with the total number of the first and second dot blocks when the total number of the first and second dot blocks is equal to or larger than a predetermined number of the total number of the blocks (Par. 0099-100).

18. In regards to claim 20, Fukutoku discloses the current block is determined to be a first double-dot block when both the current block and the previous block are the first dot blocks, or the current block is determined to be a second double-dot block when both the current block and the previous block are the second dot blocks, and the inversion type is changed when the number of the first dot blocks is larger than a first critical value and the number of the first double-dot blocks is equal to a predetermined percentage of the number the first dot blocks, or the number of the second dot blocks is

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larger than a second critical value and the number of the second double-dot blocks is equal to a predetermined number of the second dot blocks (Par. 0090-100).

19. Claims 8, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukutoku, US-20010004253 in view of Clark, US- 3925777.

20. In regards to claim 8 Fukutoku does not disclose expressly the block counter counts the blocks by counting clock cycles after a data enable signal indicating sections for inputting the image data becomes a high level.

Clark discloses a counter that counts clock signals (Col. 5, 50-53).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the counter of Clark in place of the horizontal counter of Fukutoku.

The suggestion for doing so would have been design choice and the added simplicity of only having to count the clock pulses.

Therefore, it would have been obvious to combine Clark with Fukutoku to obtain the invention as specified in claim 8.

21. In regards to claim 9 and the associated method claim 16, Fukutoku does not disclose expressly the block counter counts the blocks by counting clock cycles after a predetermined number of clocks from raise of a horizontal synchronization signal to be input to the signal controller to a high level.

Clark discloses a counter that counts clock signals (Col. 5, 50-53).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the counter of Clark in place of the horizontal counter of Fukutoku.

The suggestion for doing so would have been design choice and the added simplicity of only having to count the clock pulses.

Therefore, it would have been obvious to combine Clark with Fukutoku to obtain the invention as specified in claims 9 and 16.

22. Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukutoku, US-20010004253 in view of Baron, US-3740743.

23. In regards to claim 10 and the associated method claim 15, Fukutoku does not disclose the line counter counts the rows based on timing of a data enable signal indicating sections for inputting the image data for a row or on timing of a horizontal synchronization signal.

Baron discloses counting rows by utilizing synchronization signals input into counters (Col. 5, 50-53).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the counter of Clark in place of the vertical counter of Fukutoku.

The suggestion for doing so would have been design choice and the added simplicity of using existing signals.

Therefore, it would have been obvious to combine Baron with Fukutoku to obtain the invention as specified in claims 10 and 15.

### ***Response to Arguments***

24. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection, as presented above

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORY A. ALMEIDA whose telephone number is (571) 270-3143. The examiner can normally be reached on Monday through Friday 8AM to 4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CA

7/7/2009

/KEVIN M NGUYEN/  
Primary Examiner, Art Unit 2629